## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 16 June 2005 (16.06.2005)

PCT

## (10) International Publication Number WO 2005/053533 A1

(51) International Patent Classification7:

A61B 5/12

(21) International Application Number:

PCT/AU2004/001700

(22) International Filing Date: 2 December 2004 (02.12.2004)

(25) Filing Language:

English

(26) Publication Language:

**English** 

(30) Priority Data: 10/727,036

4 December 2003 (04.12.2003)

(71) Applicant (for all designated States except US): NEU-ROMONICS LIMITED [AU/AU]; Suites 10-11, 56 Neridah Street, Chatswood, New South Wales 2067 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): DAVIS, Paul, Benjamin [AU/AU]; Unit 13, The Primaries, 119-123 South Terrace, Fremantle, Western Australia 6160 (AU). JAMES, Lachlan, Stewart [AU/AU]; 4/5 Kissing Point Road, Turramurra, New South Wales 2074 (AU). MC-SWEENEY, Benjamin, Adam [AU/AU]; 9 Stewart Close, Cheltenham, New South Wales 2119 (AU). LAIDLAW, Linda, Elizabeth [AU/AU]; 16/7 Brunton Place, Marsfield, New South Wales 2122 (AU). FRATER, Robert, Henry [AU/AU]; 21a Napier Street, Lindfield, New South Wales 2070 (AU). HANLEY, Peter, John [AU/AU]; 5 Glenmore Street, Naremburn, New South Wales 2065 (AU).

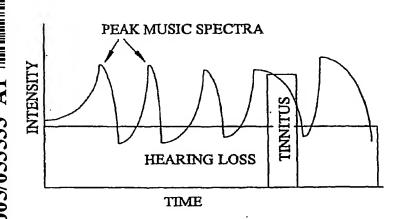
- (74) Agent: DAVIDSON, Geoffrey, Robert; Halford & Co., 1 Market Street, Sydney, New South Wales 2000 (AU).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TINNITUS REHABILITATION DEVICE AND METHOD



(57) Abstract: A tinnitus method and device for providing relief to a person suffering from the disturbing effects of tinnitus is described. The method can be implemented entirely in software to spectrally modify an audio signal in accordance with a predetermined masking algorithm which modifies the intensity of the audio signal at selected frequencies. predetermined masking algorithm is described which provides intermittent masking of the tinnitus wherein, at a comfortable listening level, during peaks of the audio signal the tinnitus is completely obscured, whereas during troughs the perception of the tinnitus occasionally emerges. In practice it has been found that such intermittent masking provides an immediate sense of relief, control and relaxation for the

person, whilst enabling sufficient perception of the tinnitus for habituation and long term treatment to occur. Advantageously the predetermined masking algorithm is specifically tailored to the audiometric configuration of the person. For example, the masking algorithm may be partly tailored to the hearing loss characteristic of the person. A tinnitus rehabilitation device used in conjunction with a personal sound reproducing system is also described.



